

REMARKS

In the Office Action, the Examiner rejected the claims as being obvious based on a combination of either Kodera (5,695,601) in view of Norton (5,486,701) or Kodera in view of Adams (4,899,055). The patent to Kodera was cited for its teaching of separate processing and metrology stations. The patents to Adams and Norton were cited for their teaching of measuring broadband light which has been reflected from the sample and broadband light which has not been reflected from the sample to evaluate the sample.

In response to these rejections, applicants have amended independent claim 24. More specifically, claim 24 now provides that the broadband light beam is generated outside of the metrology station. In addition, an optical fiber is used to transport the light beam into the metrology station.

Locating the light source outside of the metrology station and using an optical fiber transport arrangement is an important advantage in an integrated metrology system. For example, the metrology station of an integrated tool needs to be small to fit into the footprint of the overall wafer processing system. Moving significant components outside the enclosure can reduce the size of the metrology station allowing it to fit better into the appropriate location. Another factor relates to the fact that the lamp generating the light beam can create a fair amount of heat. Locating the lamp outside of the enclosure minimizes the need for cooling structures or fans inside the metrology station. Further, variations in temperature-in and around the optics can adversely effect measurement. Another advantage is that transmitting the light through an optical fiber tends to make the light output more uniform in cross-section.

The Kodera patent cited by the Examiner merely discloses an optical sensor 31 which emits a ray of light and detects a reflected ray. This light emitting device is shown positioned directly over the wafer. Both Norton and Adams disclose that light from the lamp is directed to the sample via mirror elements.

In view of the above, it is respectfully submitted that amended independent claim 24 is patentable in view of the art applied by the Examiner.

In paragraph 6 of the Office Action, the Examiner also rejected the claims under the doctrine of obviousness-type double patenting based on claims 1-57 of a different Norton patent (5,747,813) in view of Kodera. Applicants do not believe this rejection is legally proper as obviousness-type double patenting is determined only with reference to the *claims* of a cited

patent. The Examiner could not rely on the *disclosure* of the Norton patent to make an obviousness-type double patenting rejection and the Examiner most certainly cannot rely on the disclosure of an entirely different reference (Kodera) to make such a rejection. Although it is believed the Examiner's rejection is improper for legal reasons, it is noted that the amendments to claim 24 should be sufficient to overcome any form of rejection based on a combination of Norton ('813) and Kodera.

In view of the above, it is respectfully submitted that independent claim 24 defines patentable subject matter and allowance thereof, along with the claims dependent therefrom is respectfully solicited.

Respectfully submitted,

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